Elvira Yasnyska

Candidate of Medical Sciences,
Associate Professor of the Department of Social Medicine and Public Health of the Bukovinian StateMedical University Chernivtsi, https://orcid.org/ 0000-0002-3768-7278

INFLUENCE OF PSYCHOEMOTIONAL DISORDERS ON THE OCCURRENCE AND CURRENT OF CARDIOVASCULAR DISEASES

Abstract. The article examines the influence of psychogenic factors on the occurrence and course of cardiovascular diseases; modified and unmodified risk factors (genetic heredity, age, gender) were analyzed. Among the modified risk factors (a sedentary lifestyle, obesity, cigarette smoking, alcohol abuse, depressive disorders). The author presents the results of a questionnaire survey of patients with cardiovascular pathology of the Chernivtsi cardiology dispensary. The survey was conducted with the help of unified questionnaires with a selection of questions that gave a deep description of the impact of anxiety, depression and stress on the occurrence, exacerbation and course of cardiovascular diseases. The revised and supplemented Beck self-questionnaire was used to analyze anxiety. In the course of the research it was proved that that chronic depression increases the duration of treatment of patients in cardiology departments of hospitals, negatively affects a person's ability to work, causes disability and is a cause of coronary death. Behavioral mechanisms (refusal to take medication, drug abuse, reduced sleep) complicate the exacerbation of cardiovascular diseases. In addition, during the work performed, a connection between anxiety and depression was revealed using a modified version of the Hospital Anxiety and Depression Scale (HADS). It is established that In addition, during the work performed, a connection between anxiety and depression was revealed using a modified version of the Hospital Anxiety and Depression Scale (HADS). In addition, during the work performed, a connection between anxiety and depression was revealed using a modified version of the Hospital Anxiety and Depression Scale (HADS). It is established that anxiety-depressive conditions
contribute to the appearance of cardiovascular pathology, and vice versa, such diseases as heart rhythm and conduction disturbances, angina pectoris lead to the occurrence of mental disorders. To identify everyday stressful situations, the author proposed and modified the Holmes and Ray stress scale, a shortened method for determining the impact of everyday stress on the psycho-emotional state of a person. To obtain optimal results of the survey, stressful events were divided into 3 groups: severe, medium and everyday. In addition, emphasis was placed on stressful events that led to severe consequences of the course of cardiovascular diseases.

**Keywords:** cardiovascular diseases, depressive and anxiety disorders, psycho-emotional states, stressful situations, risk factors, psycho-emotional disorders.

**Statement of the problem.** The impact of stress, depressive and anxiety disorders on people is an actual problem today. Unfortunately, recently the mental health of the population of Ukraine has significantly deteriorated. A large proportion of people are under the influence of constant stress and are forced to fight for their survival. First of all, this is due to the fact that Ukraine is in a state of war. Health problems in wartime conditions are associated with the instability of the socio-political situation in the country, which led to the deterioration of the mental health of the population and an increase in cardiovascular risk in a large part of the population (military, as well as victims of hostilities and related social upheavals) due to experienced traumatic stress [3].

The population of Ukraine in modern conditions is in a state of constant stress, which increases because it is related to the basic human need - survival. It should be noted that the greatest impact on mental health as a result of the war was experienced by military personnel who are in the combat zone and are constantly under the influence of psycho-traumatic factors. The development of a system of personalized correction of stress-related disorders arising as a result of combat stress is very important in connection with problems in the field of mental health and existing psychosocial consequences of crisis traumatic events, which are strongly interconnected [1]. The consequences of psychotraumatic situations can appear not only suddenly, but also after a long period of time. The most powerful psychosocial stressor is war. Combat stress has a powerful traumatic effect on every soldier. This fact is the main reason for the development of post-traumatic stress and acute stress disorders and combat mental injuries [5].

The traumatic impact of war is associated with significant stress, loss of loved ones, material and economic losses, etc. During a military operation, it is impossible to completely avoid combat mental injuries, however, thanks to psycho-prophylactic measures and the identification of specific markers of clinical and psychopathological changes in combatants, with timely and
systematic provision of psychological assistance to them, psychological losses among the personnel of the Armed Forces of Ukraine can be reduced [2].

As for the civilian population, it is under the prolonged negative effect of received information of a personal nature and from general information sources.

**Analysis of recent research and publications.** Recently conducted scientific studies proved that chronic stress and associated anxiety and depressive disorders are the most significant risk factors associated with the development of hypertension [1]. The problem of stress worries medical scientists of all European countries, especially its prolonged effect. Despite this, some questions about the influence of psycho-emotional factors on the course of cardiovascular diseases remain unresolved.

**Presenting main material.** Psychotraumatic situations cause aggravation of anxiety states and a change in a person's permanent behavioral habits. In Ukraine, over the past few years, the problem of mental disorders has become relevant not only within the country, but also in the entire world medical space. The unstable economic and political situation in the country led to the exacerbation of cardiovascular diseases under the influence of psycho-traumatic factors (traumatic stress, anxiety-depressive and emotional disorders).

As evidenced by the results of a clinical-psychopathological study, the clinical structure of stress-related disorders is represented by emotional disorders: depression (68.2% of the examined), anxiety (89.2%), a feeling of internal tension with the inability to relax (88.9%), irritability (72.8%), anhedonia (49.2%), lack of hope (59.8%), survivor's guilt (41.2%); mild cognitive disorders: difficulty concentrating (69.8% of those examined), memory disorders (36.8%), difficulties in decision-making (56.9%), planning and organization (42.8%), when choosing the necessary words to express thoughts (33.8%); vegetative paroxysms (72.6%); asthenic syndrome complex (66.9%) and insomnia (66.2%) [2].

Anxiety-depressive conditions can increase the occurrence and course of cardiovascular diseases, and vice versa, cardiovascular diseases (disorders of rhythm and conduction of the heart, angina pectoris) often lead to the occurrence of mental disorders. It has been established that mental disorders cause disturbances in myocardial metabolism and neurohumoral regulation of the heart. Depression and coronary heart disease are in reciprocal relations: each of these diseases worsens the course of the other. CHD can cause the development or change the course of depression [7]. Chronic depression increases the duration of treatment of patients in cardiology departments of hospitals, negatively affects a person's ability to work, causes disability and is a cause of coronary death. In addition, depression affects the occurrence and course of cardiovascular diseases through behavioral mechanisms (refusal to take medication or abuse of medication, violation of the regime). The occurrence and course of cardiovascular diseases depends not only on the cumulative effect of well-known risk factors, but
also on lifestyle (falling asleep late, reducing sleep at night). This leads to a load on the sympathetic-adrenal system, the occurrence of atherosclerosis with progressive myocardial ischemia and an unfavorable clinical prognosis. In addition, psychosocial factors provoke the effect of negative risk factors: alcohol abuse, cigarette smoking, frequent intake of fatty food, sedentary lifestyle. Depressive-anxiety disorders are the main cause of coronary death worldwide.

Psychosocial factors cause acute disorders as a result of pathomorphological changes in the cardiovascular system, especially if a person abuses alcohol, smokes, neglects simple physical exercises, often eats fatty, unbalanced food.

The main mechanisms through which acute psychosocial stress increases the risk of CVD and mortality are an increase in heart rate (HR) and blood pressure (BP) due to activation of the sympathetic and decreased activity of the parasympathetic nervous system, which leads to an increase in myocardial oxygen demand; transient endothelial dysfunction; increased blood clotting; hyperglycemia and hyperlipidemia [5].

Long-term stress can cause myocardial ischemia, ventricular arrhythmia, heart failure and cause sudden coronary death. According to H. Selye, a number of pathological conditions are caused by unfavorable forms of psychophysiological response to stress in certain individuals - with a high level of anxiety, in whom psycho-emotional stress easily occurs with a subsequent increase in blood pressure [6].

The influence of the stress level on the occurrence of diseases is of great importance. The level of stress depends on the severity of the traumatic situation. For example, the death of a loved one, a threat to life, loss of a job, economic losses - refer to a high level of stress. Stresses of low intensity cause a variety of everyday situations.

The consequences of stress reactions depend on the following factors:

- the cumulative effect of prolonged stressful events;
- characterological and psychological features of a person;
- stable adaptation to stressful events;
- sufficient capacity of emotional regulation of a person;
- microsocial well-being of a person (support, family, friends, sense of security).

The effects of stressful situations on the human body depend on the capabilities of one's own body. Functional capabilities of the body, psychological and genetic properties, a set of individual psychological manifestations and mental health play a decisive role in the emergence of an appropriate reaction to the action of stress factors. Own behavioral features prevent the manifestation of impulsive and affective behavioral reactions and are able to provide an adaptive
functional reserve of the body. Improving psychological and physiological adaptation forms the body's protective mechanisms and minimizes the aggressive impact of stress factors on human health.

It should be noted that stresses are closely related to depressive reactions, strengthen their prolonged effect in both directions and lead to the emergence of post-traumatic stress and depressive disorders. The prolonged effect of stressful events causes chronic psycho-emotional tension and the progression of cardiovascular diseases and arterial hypertension.

To the questionnaire question: "Name the main reason for the deterioration of your health", most respondents named stress. This was especially noted in patients with attacks of cardiac arrhythmias and a previous myocardial infarction.

The problem of stress and diseases caused by psycho-emotional disorders remains one of the leading problems in medicine. The pathological impact of long-term psycho-emotional stress is especially relevant, which is the basis for the formation of various diseases, among which the leading place is occupied by cardiovascular diseases.

Data from the literature confirmed that the cumulative effect of well-known risk factors leads to the occurrence of mental disorders.

aim: to analyze the influence of psycho-emotional disorders on the occurrence and complications of the course of cardiovascular diseases.

Materials and methods:

To diagnose depression by us a study was conducted, which included 120 patients of the Chernivtsi regional cardiology dispensary (75 men and 55 women). 44 of them with coronary heart disease (CHD) (26 men and 18 women); 25 patients who suffered a myocardial infarction (14 men and 11 women), 51 patients with heart rhythm and conduction disorders (26 men and 25 women). The age of the examined patients was 53.5 years. Data collection was carried out using the following scales:

Beck's self-questionnaire (diagnosis of depression);
Hospital Anxiety and Depression Scale (HADS);
unified stress scale of Holmes and Ray.

After processing the questionnaires, all responses were summed up. If the respondent scored 25 points or more, he probably suffers from depression, from 10 to 25 points - minor depressive disorders, less than 10 points - no depression.

To determine and assess the severity of symptoms of anxiety and depression, we used a unified scale that is most suitable for use in mixed anxiety and depressive disorders, recurrent depressive disorders, and prolonged depressive reactions. This scale consisted of 18 questions, which were divided into two groups: anxiety and depression scale. Each answer included 4 answer options (from minimum to maximum characteristics). "The HADS scale refers to subjective methods and is intended for screening detection of anxiety and
depression in hospital patients", - Zigmond AS and Snaith RP Each answer option contained the words: "never", "sometimes", "often", "constantly" and was evaluated on the basis of respondents' answers.

The results were divided into four ranges:

- stable psycho-emotional state 25 – 49;
- minor depression 50-59;
- average level of depressive disorders 60-69;
- severe level of depressive disorders depression 70 and above.

The level of depression (RD) was calculated according to the formula: 

\[ \text{RD} = \sum \text{pr.} + \sum \text{sample.} \]

As a result of calculating the obtained results, we obtained a gradation of depressive disorders (from 25 to 75 points).

Interpretation of the level of gradation of depression:

- the degree of depression is less than 45 points, the patient has a stable psycho-emotional state and does not have depression;
- depression level from 45 to 59 points – mild depression;
- 60-75 points indicate hidden depression;
- a level of depression above 75 points is a severe form of depressive disorders.

The Chi-square method was used in the statistical processing of the material.

As a result of the research, modified and unmodified risk factors (genetic heredity, age, gender) were analyzed. Among the modified risk factors (a sedentary lifestyle, obesity, cigarette smoking, alcohol abuse, depressive disorders).

Hypodynamia (25%), obesity (10%), and anxiety-depressive disorders (60%) had the leading influence among the risk factors of cardiovascular pathology.

In addition, a combination of depressive and modified risk factors was noted. Hypodynamia in combination with depression is > 25%. Anxiety combined with depression accounted for 35%. Myocardial infarction in combination with depression - 20%. About 50% of patients smoke and periodically abuse alcohol (45% of men and 15% of women).

In patients with heart rhythm and conduction disorders, obesity was diagnosed in the same way, both among women and among men.

To identify everyday stressful situations, a unified and shortened method of determining the impact of everyday stressful situations on a person's psycho-emotional state is proposed.

In our research, we took into account only those situations that occurred during the last year. If the same situation was repeated, the number of points was multiplied by the number of repetitions of this situation.
Interpretation of results:

- Scored less than 150 points - low level of stress;
- 150 – 299 – the risk of psycho-emotional disorders is 50%;
- 300 points – the risk of long-term psychoemotional disorders is almost 80%.

The most acute stressful events, according to the respondents, were the following events:

- death of a close relative;
- threat to one's life or the life of a loved one as a result of military operations;
- being in a war zone;
- the presence of a serious illness in oneself or in close relatives;
- Loss of housing and migration from the war zone.

Among the surveyed respondents, 42% (12% of men and 30% of women) noted that they received a high level of stress due to the events listed above (100 points, respectively).

The respondents attributed the following to the most frequent medium-level stressful situations:

- economic difficulties;
- divorce;
- birth of a child;
- death of a familiar person;
- change of place of work.

The largest percentage of respondents (38%) noted the presence of economic difficulties in their lives and are looking for a job; 40% received stress due to information about the death of a close acquaintance.

The level of everyday stress was noted in approximately 85% of respondents (52% men and 48% women). Provided that daily stressful situations were repeated several times, the level of stress was defined as medium or severe.

The most frequent situations that were related to everyday stress:

- change in living conditions;
- getting rid of bad habits (drinking alcohol, smoking cigarettes);
- frequent quarrels at home or at work;
- overwork;
- sleep disturbance.

43% of the interviewed patients were assigned to the astheno-depressive type (complained of a decrease in mood, work capacity and reluctance to perform everyday work). Part of the patients noted problems in communication with colleagues and relatives, increased irritability and excitement. Such patients were assigned to the aggressive-explosive type - 22% (30% men and 12% women).
Psychopathic reactions in most patients (78%) were expressed in the following manifestations:

- high level of internal tension;
- manifestations of inappropriate aggressive behavior;
- impulsive and affective behavior;
- neglect of moral norms and rules.

**Conclusions.** Hypodynamia (25%), obesity (10%), and anxiety-depressive disorders (60%) had the leading influence among the risk factors of cardiovascular pathology. According to the results of the research, a combination of depressive and modified risk factors was found. Hypodynamia in combination with depression is > 25%. Anxiety combined with depression accounted for 35%. Myocardial infarction in combination with depression - 20%. About 50% of patients smoke and periodically abuse alcohol (45% of men and 15% of women). Anxiety-depressive conditions and cardiovascular diseases are mutually dependent and reinforce each other.

**References:**

1. Bohomolets OV, Pinchuk I. Ya., Druz OV, Khaustova OO (2014). Optimyzatsiia pidkhodiv do nadannia psykhiatrychnoi dopomohy vidpovidno do suchasnykh potreb uchasnykiv boiovyh dii [Optimizing approaches to the provision of psychiatric care in accordance with the modern needs of combatants]. Kyiv: metodichni rekomendatsii [in Ukrainian].


